

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (**Currently Amended**) An apparatus ~~for facilitating clustering of speech and audio data, said apparatus~~ comprising:

an arrangement for obtaining ~~untrained~~ speech and audio data as input data; and

an arrangement for clustering of said speech and audio data, said arrangement for clustering further comprising:

an arrangement for creating a predetermined number of non-overlapping subsets of the input data;

said arrangement for creating a predetermined number of non-overlapping subsets being adapted to split the input data recursively, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to determine an eigenvector decomposition relating to the input data;

said clustering being independent of any model wherein the splitting of the input data into a predetermined number of non-overlapping subsets occurs independent of model and during the enrollment of a speaker in a speaker verification system;

wherein there is no variability in the clustering due to randomness.

2. **(Original)** The apparatus according to Claim 1, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to initially split the input data into at least two sets of output data.

3. **(Original)** The apparatus according to Claim 2, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to:

split the at least two sets of output data recursively; and

repeat the recursive splitting of output data sets until the predetermined number of non-overlapping subsets is obtained.

4. **(Cancelled)** The apparatus according to Claim 2, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to determine an eigenvector decomposition relating to the input data.

5. **(Currently Amended)** The apparatus according to Claim [[4]] 2, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to determine a vector of projection coefficients onto the set of eigenvectors in the eigenvector decomposition.

6. **(Previously Presented)** The apparatus according to Claim 5, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to determine a probability distribution relating to the vector of projection coefficients.

7. **(Previously Presented)** The apparatus according to Claim 6, wherein said arrangement for creating a predetermined number of non-overlapping subsets is adapted to:

assign at least one threshold relating to the probability distribution; and

yield the at least two sets of output data based on the relation to the threshold of a value associated with a function relating to the projection coefficients.

8. **(Original)** The apparatus according to Claim 7, wherein there are N-1 thresholds, where N is the number of sets of output data to be yielded.

9. **(Previously Presented)** The apparatus according to Claim 8, wherein each threshold is a value of the function relating to the projection coefficients for which the probability distribution equals m/N , where m is a number from 1 to N-1.

10. **(Currently Amended)** The apparatus according to Claim 1, ~~wherein the data clustering relates to the enrollment of target speakers in a speaker verification system~~
further comprising:

an arrangement for, after the splitting of the input data is complete, building a statistical model for pattern classification for each of the classes using any desired technique.

11. (**Currently Amended**) A method of ~~facilitating clustering of speech and audio data, said method~~ comprising the steps of:

obtaining ~~untrained~~ speech and audio data as input data; and

clustering of said speech and audio data, said clustering further comprising:

creating a predetermined number of non-overlapping subsets of the input data;

said step of creating a predetermined number of non-overlapping subsets comprising splitting the input data recursively, wherein said splitting step comprises determining an eigenvector decomposition relating to the input data;

said clustering being independent of any model wherein the splitting of the input data into a predetermined number of non-overlapping subsets occurs independent of a model and during the enrollment of a speaker in a speaker verification system;

wherein there is no variability in the clustering due to randomness.

12. (**Original**) The method according to Claim 11, wherein said splitting step comprises initially splitting the input data into at least two sets of output data.

13. **(Original)** The method according to Claim 12, wherein said splitting step comprises:

splitting the at least two sets of output data recursively; and
repeating the recursive splitting of output data sets until the predetermined number of non-overlapping subsets is obtained.

14. **(Cancelled)** The method according to Claim 12, wherein said splitting step comprises determining an eigenvector decomposition relating to the input data.

15. **(Currently Amended)** The method according to Claim ~~[[14]]~~ 12, wherein said splitting step further comprises determining a vector of projection coefficients onto the set of eigenvectors in the eigenvector decomposition.

16. **(Previously Presented)** The method according to Claim 15, wherein said splitting step further comprises determining a probability distribution relating to the vector of projection coefficients.

17. **(Previously Presented)** The method according to Claim 16, wherein said splitting step further comprises:

assigning at least one threshold relating to the probability distribution; and
yielding the at least two sets of output data based on the relation to the threshold of a value associated with a function relating to the projection coefficients.

18. **(Original)** The method according to Claim 17, wherein there are $N-1$ thresholds, where N is the number of sets of output data to be yielded.

19. **(Previously Presented)** The method according to Claim 18, wherein each threshold is a value of the function relating to the projection coefficients for which the probability distribution equals m/N , where m is a number from 1 to $N-1$.

20. **(Currently Amended)** The method according to Claim ~~[[1]]~~ 11, wherein the data clustering relates to the enrollment of target speakers in a speaker verification system wherein, after splitting of the input data is complete, building a statistical model for pattern classification for each of the classes using any desired technique.

21. **(Currently Amended)** A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for facilitating clustering of speech and audio data, said method comprising the steps of:

obtaining ~~untrained~~ speech and audio data as input data; and

clustering of said speech and audio data, said clustering further comprising:

creating a predetermined number of non-overlapping subsets of the input data;

said step of creating a predetermined number of non-overlapping subsets comprising splitting the input data recursively, wherein said splitting step comprises determining an eigenvector decomposition relating to the input data;

said clustering being independent of any model wherein the splitting of the input data into a predetermined number of non-overlapping subsets occurs independent of a model and during the enrollment of a speaker in a speaker verification system;

wherein there is no variability in the clustering due to randomness.